

Application No. Not Yet Assigned  
Paper Dated: August 10, 2006  
In Reply to USPTO Correspondence of N/A  
Attorney Docket No. 1455-062312

Customer No. 28289

**AMENDMENTS TO THE ABSTRACT**

After the claims, please insert a page containing the Abstract Of The Disclosure which is attached hereto as a separately typed page.

## **PASSIVE COOLING AND ARRESTING DEVICE FOR MOLTEN CORE MATERIAL**

### **ABSTRACT OF THE DISCLOSURE**

An apparatus for passively cooling and retaining molten core material discharged from a damaged reactor vessel during a severe accident in the nuclear plant including: a molten core material retention tank to retain molten core material; a compressed gas tank storing high-pressure inert gas; a cooling water storage tank being installed higher than the molten core material retention tank; and a mixing means. The molten core material retention tank includes an outer retention vessel having at least one coolant hole, a porous protection vessel formed at an inside of the outer retention vessel, and a gravel layer formed between the outer retention vessel and the porous protection vessel. The apparatus can be installed in a reactor cavity without changing the compartment structure of a containment building, and makes it possible to prevent a steam explosion during the cooling process for the ultrahigh-temperature molten core material and to secure the reliability of the cooling process.